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NASA Procedural Requirements

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Subject: NASA Enterprise Architecture Procedures

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CHAPTER 4: Definitions

4.1 Definitions

4.1.1 EA terminology carries many variations within each organization and in the vast array of literature. NASA has identified one consistent set of definitions for key terms used in its EA in Figure 1.

Term	Definition
Application Architecture	Describes how NASA information systems should be designed, how they cooperate with each other, and factors to consider in their deployment. It also serves as the focal point for an application systems inventory for NASA.
Architecture	The structure of components, their interrelationships, and the principles and guidelines governing their design and evolution over time.

Baseline Architecture (or Current Architecture)	The set of products that portray the existing enterprise, the current business practices, and technical infrastructure. Commonly referred to as the ?As-Is? architecture.
Business Architecture	Defines what, where, and by whom the work of the Agency is performed. As the knowledge base for the EA, the Business Architecture provides a business-driven approach for determining the proper information, applications, and IT required by the enterprise.
Business Reference Model (BRM)	Provides a hierarchical structure for the business operations of the Federal Government. The BRM identifies four business areas that provide a high-level view of the operations the Government performs. The four areas are: (1) Services for Citizens, (2) Mode of Delivery, (3) Support Delivery of Services, and (4) Management of Government Resources.
Data Architecture	Provides an understanding of what information is needed to effectively execute the enterprise's business processes and provides a framework for effectively managing the enterprise's information environment. Data Architecture links information behavior (i.e., accessing, using, and sharing data), information management processes, and information support staff to other aspects of the enterprise.
Data Reference Model (DRM)	Describes the data and information that support programs and lines of business operations. Aids in describing the types of interaction and exchanges that occur between the Agency and its various customers, constituencies, and business partners. The DRM categorizes information into content areas, establishes a commonly understood classification for Federal data, and streamlines processes associated with information exchange both within the Agency and between the Government and its external stakeholders. The DRM will help to identify duplicative data resources.

EA Products	The graphics, models, and/or narrative that depicts the enterprise environment and design.
Enterprise	An organization or cross-organizational entity supporting a defined business scope and mission. An enterprise includes interdependent resources (i.e., people, organizations, and IT) that must coordinate their functions and share information in support of a common mission or set of related missions.
Enterprise Architecture (EA)	From NPR 7120.5: Enterprise Architecture - An explicit description and documentation of the current and desired relationships among business and management processes and information technology. An Enterprise Architecture includes principles, an architecture framework, a technical standards profile, current and target architectures, and a transition strategy to move from the current to target architecture.
Information Technology (IT)	FAR 2.101 Definition: Information Technology (IT) means any equipment or interconnected system(s) or subsystem(s) of equipment that is used in the automatic acquisition, storage, analysis, evaluation, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information by the Agency.?
Reference Architecture	A reference architecture is a graphically represented, high-level system overview that is intentionally free of implementation details. It generally includes high-level descriptions of the system components, a definition of relationships between components, definitions of relationships between system components and elements external to the system, and identification of performance drivers and capacity requirements. Where applicable, a reference architecture also provides high-level definitions of key data sources, data stores produced, and interfaces between the system components.

Sequencing Plan	A document that defines the strategy for changing the enterprise from the current baseline to the target architecture. It schedules multiple, concurrent, interdependent activities, and incremental builds that will evolve the enterprise.
Service Reference Model (SRM)	A business and performance-driven, functional framework that classifies service components with respect to how they support business and/or performance objectives. The SRM is intended to support the discovery of Agency-wide business and application service components in IT investments and assets. The SRM is structured across horizontal and vertical service domains that, independent of the business functions, can provide a foundation to support the reuse of applications, application capabilities, components, and business services.
Technology Architecture	The bottom layer in the architectural hierarchy and is considered the foundation upon which all the other IT architectures are built. The architecture or design of the technology is driven by business needs communicated by the design of the three higher architectural layers (Business Architecture, Data Architecture, and Application Architecture).
Technical Reference Model (TRM)	Identifies and describes the technical services used throughout the Agency. The TRM is a high-level view of the NASA service areas and how they are related to the general technology layers. It describes the inter-relationship between the services and the user environment, applications, integration, data, and common infrastructure. The TRM is also used for communicating technology component elements such as policies, standards, and product recommendations.
System Development Life Cycle (SDLC)	The scope of activities associated with a system, encompassing the system's initiation, development and acquisition, implementation, operation and maintenance, and ultimately its disposal that instigates another system initiation.

Figure 1

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